Texas Commission on Environmental Quality
Total Maximum Daily Load Program

Improving Water Quality in the Houston–Galveston Area

A TMDL Project for Dioxin

In 1990, the Department of State Health Services issued an advisory warning people not to eat catfish or blue crab caught in the Houston Ship Channel and Upper Galveston Bay. The advisory was issued to protect consumers from health problems caused by dioxin found in catfish and blue crab.

Dioxin is a generic term for a suite of toxic and environmentally persistent compounds. Overexposure to dioxin can cause a variety of harmful health problems, including cancer, birth defects, diabetes, developmental delays, and immune system abnormalities.

The TCEQ is developing total maximum daily loads (TMDLs) to restore the safety of fish consumption in the waterways affected by the advisory. The goal of a TMDL is to determine the amount (or load) of a pollutant that a body of water can receive and still support its designated uses. The allowable load is then allocated among categories of sources within the watershed, and stakeholders work with the state to develop an implementation plan (I-Plan) to reduce pollutant loads.

Learn more about water quality standards, monitoring, and TMDLs by reading *Preserving and Improving Water Quality*, available on our website at <www.tceq.texas.gov/goto/tmdl/>.

Houston Ship Channel and Upper Galveston Bay Watershed

The Ship Channel system is in the San Jacinto River Basin. Its various branches originate in western and northern areas of the city of Houston, and at the Lake Houston Dam on the San Jacinto River. The Ship Channel area has one of the highest densities of petrochemical facilities in the world. Facilities in the area, and the waterway itself, are important elements in the economic health of the region, state, and nation.

Houston has long been one of the busiest ports in the United States. The channel's production of materials and its inland location have been, and will continue to be, important to the military security of the nation.

The commercial navigation provided by the channel initiated and supported the historic growth of the Houston area economy. The headwater reaches, tributaries, and fringes of both the Houston Ship Channel System and Upper Galveston Bay provide recreational opportunities for residents.

The watershed includes portions of the following political jurisdictions:

- *Counties*: Chambers, Fort Bend, Galveston, and Harris
- *Cities*: Houston, Pasadena, Baytown, La Porte, and Deer Park

The Houston Ship Channel system consists of 14 classified segments, which together comprise the "enclosed" portion of the Houston Ship Channel with its major tributaries and side bays.

This project includes ten of the ship channel segments:

- San Jacinto River Tidal (Segment 1001)
- Houston Ship Channel (1005, 1006, 1007)
- Tabbs Bay (2426)
- San Jacinto Bay (2427)
- Black Duck Bay (2428)
- Scott Bay (2429)
- Burnett Bay (2430)
- Barbours Cut (2436)

Also included are three segments not considered part of the Houston Ship Channel system:

- Cedar Bayou Tidal (Segment 0901)
- Upper Galveston Bay (Segment 2421)
- Bayport Channel (Segment 2438)

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July 2013

Public Participation

In all its projects, the TCEQ gathers opinion and information from people in the watershed. Due to the lengthy and extremely technical nature of this project, the TCEQ convened a standing stakeholder group in the early stages. The group includes area residents and representatives of nongovernmental organizations, industry, and various local, state, and federal governments. This stakeholder group is also advising the TCEQ about two other closely related projects for PCBs and dioxin in the Houston area.

The Houston-Galveston Area Council (H-GAC) is coordinating public participation. The project is also coordinated as needed with the Texas Clean Rivers Program Steering Committee and the Technical Advisory Group (TAG) for the San Jacinto River Basin and associated Coastal Basins.

For More Information

Contact one of the people listed below.

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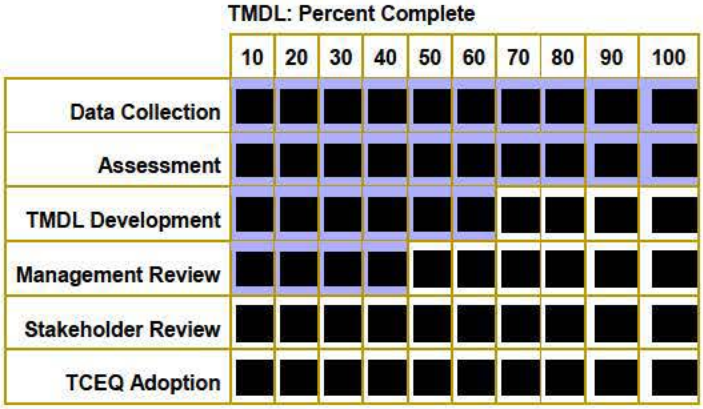
Visit the H-GAC website at:
<www.h-gac.com/community/water/tmdl/>

or the TCEQ website at:
<www.tceq.texas.gov/waterquality/tmdl/26-houston_group.html

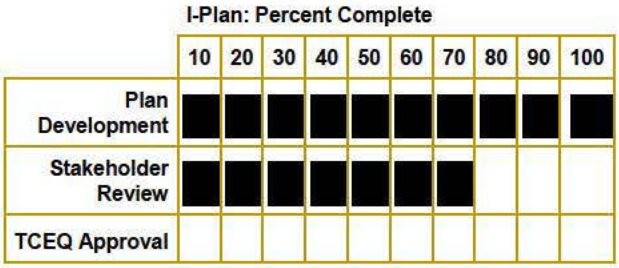
TMDL Development Status

Start Date: 2002
TCEQ Adoption:
EPA Region 6 Approval:



I-Plan Development Status

Projected End Date: 2014
TCEQ Approval:



Highlights

- 1990. The Department of State Health Services issued the first Seafood Advisory for dioxin.
- 2000. The kick-off meeting of the stakeholder group was held at the H-GAC offices in Houston.
- 2002. Sampling began to support analyses of dioxins in water, sediment, tissue, watershed runoff, wastewater discharges, and air.
- 2005. Data collected by the project led to the discovery of a concentrated deposit of dioxin-contaminated sludge submerged in the San Jacinto River. That site has since become a National Priority List Superfund Site managed by the EPA.
- 2006. Sampling results indicated dioxin concentrations in water, sediment, and tissues were elevated. Preliminary analyses suggested that current sources are unlikely to be significant, and residual sediment loads are the primary issue. Subsequent sampling and model analyses continue to support that conclusion.
- 2008. Analysis and modeling for the TMDL were completed.
- 2013. Management review in process.